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Dynamic simulation and effects in animation and computer game

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Dynamics is the simulation of motion through the application of the principles of physics. Instead of assigning keyframes to objects to animate them, you assign physical characteristics that define how an object behaves in a simulated world. The dynamic bodies are converted from the objects created, and defined through dynamic attributes, which affect how the objects behave in a dynamic simulation. With dynamic simulation, you can create many impressive effects such as explosion, flood, storm, tornado, ocean, etc., for animations and computer games. In this presentation, Prof. Xu will overview the tools and techniques to simulate and render hair, fur, feathers, cloth, liquids, fluids, particles and rigid and soft bodies, demonstrate how to use the dynamic relationships editor to connect and disconnect dynamic relationships between dynamic objects such as particles, nParticles, fluids and emitters, and non-nucleus collision objects, how to use the collision events editor to create collision events for nParticles, and how to use the Sprite Wizard to simplify the process for displaying a texture image or image sequences on nParticles. The application of dynamic simulation and effects in animation and computer games will also be explored.

Biography

David Xu is a tenure Associate Professor at Regent University, specializing in computer 3D animation and special effects. He got his MFA Computer Graphics in 3D Animation from Pratt Institute in NY. He has served as a Senior 3D Animator in Sega, Japan; a senior CG Special Effector in Pacific Digital Image Inc., Hollywood; and as a Professor of Animation at several colleges and universities, where he developed the 3D animation program and curriculum. He has been a Committee Member of the computer graphics organization, Siggraph Electronic Theater, where he was recognized with an award for his work. He is also an organizing committee member of CG2016. He published the book, Mastering Maya: The Special Effects Handbook, invited by Shanghai People's Fine Arts Publishing House.

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